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First Named Inventor: KEVIN S. DIBBLE

Application No. **10/017,209** Attny Docket No: 020533.0437 (2002P00902US)

Filed: December 13, 2001

Title: NETWORK INTERFACE DEVICE AND METHOD

Examiner: ALEXANDER JAMAL Art Unit: **2643**

➨ **FACSIMILE ATTN TO:** ALEXANDER JAMAL **FAX NO.:** 571-273-8300

APPELLANT'S BRIEF

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Application Number	10/017,209
Filing Date	December 13, 2001
First Named Inventor	Kevin S. Dibble
Art Unit	2643
Examiner Name	ALEXANDER JAMAL
Attorney Docket Number	020533.0437 (2002P00902US)

ENCLOSURES *(check all that apply)*

- ☒ Fee Transmittal Form
- ☐ Fee Attached
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- ☐ After Final
- ☐ Affidavits/declaration(s)
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- ☐ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
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- ☐ Reply to Missing Parts under 37 CFR1.52 or 1.53
- ☐ Drawing(s)
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- ☐ Petition
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Remarks

Appellants Appeal Brief (22 pgs) is being filed.

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Firm	SIEMENS		
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Date	October 19, 2005	Reg. No.	44,961

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FEE TRANSMITTAL for FY 2005

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT	($) 500

Complete If Known	
Application Number	10/017,209
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First Named Inventor	Kevin S. Dibble
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Attorney Docket No.	020533.0437 (2002P00902US)

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FEE CALCULATION

1. BASIC FILING, SEARCH, AND EXAMINATION FEES

	FILING FEES		SEARCH FEES		EXAMINATION FEES		
		Small Entity		Small Entity		Small Entity	
Application Type	Fee ($)	Fee($)	Fee($)	Fee($)	Fee($)	Fee($)	Fees Paid ($)
Utility	300	150	500	250	200	100	____
Design	200	100	100	50	130	65	____
Plant	200	100	300	150	160	80	____
Reissue	300	150	500	250	600	300	____
Provisional	200	100	0	0	0	0	____

2. EXCESS CLAIM FEES

Fee Description	Fee ($)	Small Entity Fee ($)
Each claim over 20 (including Reissues)	50	25
Each independent claim over 3 (including Reissues)	200	100
Multiple dependent claims	360	180

Total Claims	Extra Claims	Fee($)	Fee Paid ($)
____ -20 or HP=	____	x ____	= ____

HP = highest number of total claims paid for, if greater than 20.

Indep. Claims	Extra Claims	Fee($)	Fee Paid ($)
____ - 3 or HP=	____	x ____	= ____

HP = highest number of independent claims paid for, if greater than 3.

Multiple Dependent Claims	
Fee ($)	Fee Paid ($)
____	____

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee ($)	Fee Paid ($)
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	Fees Paid ($)
Non-English Specification, $130 fee (no small entity discount)	____
Other (e.g., late filing surcharge) : **Filing a Brief in support of an appeal 1402/2402**	**500**

SUBMITTED BY

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Name (Print/Type)	JOHN P. MUSONE		Date October 19, 2005

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PATENT
Attorney Docket No. 020533.0437
(2002P00902US)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Inventor:	K. Dibble et al.	Group Art Unit:	2643
Serial No.:	10/017,209	Examiner:	A. Jamal
Filed:	December 13, 2001		

Title: NETWORK INTERFACE DEVICE AND METHOD

Commissioner For Patents
PO BOX 1450
Alexandria, VA. 222313-1450

Sir:

APPELLANTS BRIEF

This Appeal Brief relates to an appeal from the final rejection of claims 1-29 in the Office Action mailed May 31, 2005.

10/20/2005 HDEMESS1 00000069 192179 10017209
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Real Party in Interest

This application is assigned to Efficient Networks, Inc. of Dallas, Texas. Efficient Networks is a wholly owned subsidiary of Siemens Corporation of Iselin, New Jersey.

Related Appeals and Interferences

There are no prior and pending appeals, interferences or judicial proceedings known to Applicants, Applicants' legal representative, or Assignee which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

Status of Claims

Claims 1-29 stand finally rejected by the Office Action mailed May 31, 2005 and are presently under appeal in this proceeding. No other claims stand rejected, allowed, withdrawn, objected to, or canceled.

Status of Amendments

No amendment has been filed subsequent to the final rejection.

Summary of Claimed Subject Matter

Independent Claim 1

Referring to Figures 1, 2 and 3, independent claim 1 recites a network interface device (NID) 112 comprising:

a first interface operable to receive at least two incoming calls over a subscriber line 126 (p. 3 lines 6-9);

a second interface operable to facilitate communication between the first interface and first & second telephone lines 122a,b, and also operable to generate a first ring voltage 304a on the first telephone line 122a and a second ring voltage 304b on the second telephone line 122b (p. 3 lines 9-15).

a processor 256 coupled to the first & second interfaces operable to instruct the second interface to generate the first & second ring voltages 304a,b in response to receiving the incoming calls, the processor also operable to:

measure a total instantaneous load placed on the second interface;

compare the total instantaneous load to a determined threshold level;

and if the total instantaneous load exceeds the threshold level, then maintain the total instantaneous load below the determined threshold level by shifting in time the respective peak voltages of the first and second ring voltages 304a,b (see e.g., p. 3 lines 15-24; p.26 line 25 – p. 27 line 18).

Dependent claim 2

Referring to Figures 3 and 6, dependent claim 2 recites the network interface device 112 of claim 1, wherein the processor 256 is operable to allocate the first & second ring voltages 304a,b by staggering the first & second ring voltages 304a,b such that the first ring voltage(s) 304a on the first telephone line 222a is generated at different times than the second ring voltage(s) 304b on the second telephone line 222b (see e.g., p. 4 line 25 – p.5 line 2; p.26 line 25 – p. 27 line 18).

Dependent claim 4

Referring to Figures 4 and 6, dependent claim 4 recites the network interface device 112 of claim 1, wherein the processor 256 is operable to allocate the first & second ring voltages 304a,b by instructing the second interface to generate the first & second ring voltages 304a, b simultaneously (see e.g., p. 3 lines 19-25; p.27 line 19 – p. 28 line 11).

Dependent claim 13

Referring to Figures 4 and 6, dependent claim 13 recites the network interface device 112 of claim 1, wherein each of the one or more first ring voltages have a duration of two seconds followed by a four second pause (see e.g., p. 26 line 25-29).

Independent claim 14

Referring to Figures 1 and 2, independent claim 14 recites a method for providing a service to a subscriber, comprising:

receiving at least two incoming calls over a subscriber line (p. 3 lines 6-9);

identifying a first telephone line and a second telephone line associated with the incoming calls(p. 3 lines 9-15);

measuring a total instantaneous load placed on a network interface device coupled to the first and the second telephone lines;

comparing the total instantaneous load to a determined threshold level; and

if the total instantaneous load exceeds the threshold level, maintaining the total instantaneous load below the determined threshold level by shifting in time the respective peak voltages of one or more first ring voltages and one or more second ring voltages 304a,b (see e.g., p. 3 lines 15-24; p.26 line 25 – p. 27 line 18).

Dependent claim 15

Referring to Figures 3 and 6, dependent claim 15 recites the method of claim 14, wherein the first & second ring voltage allocation comprises staggering the first & second ring voltages 304a,b such that the first ring voltage(s) 304a on the first telephone line 222a is generated at different times than the second ring voltage(s) 304b on the second telephone line 222b (see e.g., p. 4 line 25 – p.5 line 2; p.26 line 25 – p. 27 line 18).

Dependent claim 17

Referring to Figures 4 and 6, dependent claim 17 recites the method of claim 14, wherein the first & second ring voltages 304a,b comprises initiating simultaneous generation of the first & second ring voltages 304a,b (see e.g., p. 3 lines 19-25; p.27 line 19 – p. 28 line 11).

Dependent claim 25

Referring to Figures 4 and 6, dependent claim 25 recites the method of claim 14, wherein each of the one or more first ring voltages have a duration of two seconds followed by a four second pause (see e.g., p. 26 line 25-29).

Independent claim 26

Referring to Figures 1 and 2, independent claim 26 recites software for providing a service to a subscriber, the software embodied in at least one computer-readable medium and when executed by one or more processors operable to:

receive at least two incoming calls over a subscribed line (p. 3 lines 6-9);

identify a first telephone line and a second telephone line associated with the incoming calls (p. 3 lines 9-15);

measure a total instantaneous load placed on the interface to the first and second telephone lines;

compare the total instantaneous load to a determined threshold level; and

if the total instantaneous load exceeds the threshold level, instruct the interface to generate one or more first ring voltages on the first telephone line and one or more second ring voltages on the second telephone line, the respective peak voltages of the first and second ring voltages shifted in time so that the total instantaneous load does not exceed the determined threshold level (see e.g., p. 3 lines 15-24; p.26 line 25 – p. 27 line 18).

Independent claim 27

Referring to Figures 1 and 2, independent claim 14 recites a network interface device, comprising:

means for receiving at least two incoming calls over a subscriber line (p. 3 lines 6-9);

means for generating one or more first ring voltages on a first telephone line and one or more second ring voltages on a second telephone line (p. 3 lines 9-15);

means for measuring a total instantaneous load placed on a network interface device coupled to the first and the second telephone lines;

means for comparing the total instantaneous load to a determined threshold level; and

means for maintaining the total instantaneous load below the determined threshold level, by shifting in time the respective peak voltages of one or more first ring voltages and one or more second ring voltages 304a,b if the total instantaneous load exceeds the threshold level (see e.g., p. 3 lines 15-24; p.26 line 25 – p. 27 line 18).

Independent claim 28

Referring to Figures 1 and 2, independent claim 1 recites a network interface device 112 comprising:

a first interface operable to receive at least two incoming calls over a subscriber line 126 (p. 3 lines 6-9);

a second interface operable to facilitate communication between the first interface and first & second telephone lines 122a,b, and also operable to generate a first ring voltage 304a on the first telephone line 122a and a second ring voltage 304b on the second telephone line 122b (p. 3 lines 9-15).

a processor 256 coupled to the first & second interfaces operable to:

measure a total instantaneous load placed on the second interface;

compare the total instantaneous load to a determined threshold level; and

if the total instantaneous load exceeds the threshold level, instruct the second interface to generate the first and second ring voltages in response to receiving the incoming calls, the generation of the ring voltages staggered such that the one or more first ring voltages on the first telephone line are generated at different times than the one or more second ring voltages on the second telephone line (see e.g., p. 3 lines 15-24; p.26 line 25 – p. 27 line 18).

Independent claim 29

Referring to Figures 1 and 2, independent claim 1 recites a network interface device 112 comprising:

a first interface operable to receive at least two incoming calls over a subscriber line 126 (p. 3 lines 6-9);

a second interface operable to facilitate communication between the first interface and first & second telephone lines 122a,b, and also operable to generate a first ring voltage 304a on the first telephone line 122a and a second ring voltage 304b on the second telephone line 122b (p. 3 lines 9-15).

a processor 256 coupled to the first & second interfaces operable to:

determine whether a total load placed on the first and second telephone lines exceeds a threshold load;

transmit a first instruction instructing the second interface to allow a simultaneous generation of the first and second ring voltages on the telephone when the total load placed on the telephone lines does not exceed the threshold level;

transmit a second instruction instructing the second interface to stagger a generation of the first and second ring voltages when the total instantaneous load placed on the telephone lines does not exceed the threshold level; and

switch between the transmission of the first and second instructions based on the determination (see e .g., p. 3 lines 15-24; p.26 line 25 – p. 27 line 18).

Grounds for Rejection to be Reviewed

Whether claims 1-8, 11-21, and 24-29 are unpatentable under 35 U.S.C. § 103 as being obvious over Henderson (USPN 6,546,098) in view of Bushue (USPN 5,539,805) and further in view of Cohn (USPN 6,714,644). Particularly, if: (a) Cohn teaches or suggests shifting in time or staggering peak ring voltages, and (b) it would have been obvious to combine Bushue with Cohn.

Appellants' Argument

A. Applicants' Invention

Telephone service providers use network interface devices (NIDs) to provide telephone service to their customers. The NID connects the inside wiring of the customer's premises to the powered telephone network, and has two "sides" - one to the central office of the telephone service provider and one to the customer's telephone lines. (p. 2 lines 2-10).

The present invention provides an improved NID, such improvements including (a) reduced power consumption (p. 4 line 11 – p. 5. line 2), (b) independent power draw (p. 5 lines 3-18), and (c) ability to support DSL and cable modem interfaces (p. 4 lines 2-10).

a. reduced power consumption

As customers continue to increase telephone load per premise (e.g. by increasing the number of telephones, fax lines, computers with internet connectivity, etc. within a premise) the power load on the NID is increased, which can cause the NID to become a power bottleneck for these telecommunication devices. For example, if the NID receives incoming calls for multiple telephone lines within a premise, the NID would generate ring voltages for each of these telephone lines thereby causing the telephone lines to ring. However, ringing multiple telephone lines simultaneously may require more power than the NID can draw from the telephone line power supply. (p. 4 lines 11-22).

In one aspect of Applicants' invention, the improved NID determines which telephone lines can be rung at the same time without requiring an excessive/undrawable amount of power

from the telephone line power supply. Based on that determination, the NID may selectively ring two or more telephone lines simultaneously and/or ring two or more telephone lines in a staggered fashion. By staggering the ringing, the NID reduces the amount of power required at any particular peak point in time. (p. 4 line 22 – p. 5 line 2).

Additionally, since customer premises that are physically remote from the telephone line power supply tend to experience heightened NID power problems since the amount of power that can be drawn from the telephone line power supply typically decreases as the distance between the customer's premises and the telephone network power equipment increases. By decreasing the amount of power required to operate the NID, the NID may be used as greater distances from the network power equipment. This allows the telephone service provider to offer its services to larger customer base. (p. 5 lines 3-18).

b. independent power draw

In accordance with another aspect of Applicants' invention, in the event of a power loss from the telephone line power supply, the improved NID could temporarily draw power from a local power source (e.g. battery). In order to conserve power, the NID could stop supplying power to certain telephone load devices but ensure that at least one telephone "lifeline" receives power from the local power source throughout the power outage. Alternatively, the NID could use this independent power draw concept on a more permanent basis with or without telephone line power supply power loss. (p. 51 line 12 – p. 52 line 11).

c. ability to support DSL and cable modem interfaces (p. 4 lines 2-10).

In accordance with another aspect of Applicants' invention, the improved NID provides faster communication between the customer premises and telephone network. In one embodiment, the NID support communication over a telephone network using a DSL or cable modem interface, which allows a larger amount of information to be communicated over the network within a given time period. In other embodiments, the improved NID supports other type of communications, such as analog voice and fax traffic. (p. 3 lines 29 – p. 4 line 10).

B. <u>The Cited Art</u>

The Examiner has rejected the claims based on Henderson, Bushue and Cohn.

a. Henderson

Henderson teaches a NID with interfaces capable of receiving multiple calls over a subscriber line (Fig. 2) and connecting them to multiple telephone lines at the customer premise (col. 12 line 60 – col. 13 line 38), and also teaches that the NID may provide ring voltages to the line (col. 12 line 60 – col. 3 line 3).

Applicants agree with the Examiner's reading of Henderson.

b. Bushue

Bushue teaches a voltage detection circuit that works with a power supply system to provide a ringing voltage during low operating voltage situations to ensure continuous telephone operating service during "undervoltage" situations. col. 3 lines 53-56, col. 4 lines 27-36.

The Examiner asserts that "Bushue teaches a NID that will allocate multiple ringing signals to their respective telephone lines in the event that an "undervoltage" event occurs (col. 3 lines 5-20, col. 3 line 53 to col. 4 line 27)", and that "this ensures that the device does not exceed a determined threshold level." Applicants respectfully submit that Bushue teaches a detection circuit that monitors the voltage, and if an "undervoltage" condition is detected, causes a ringing reference signal to temporarily change state from an AC sine wave to a steady-state DC voltage. col. 3 lines 56-60.

In more detail, Bushue discloses that since DC voltage imposes a significantly lower transient current load than does AC voltage, the needed voltage supply is lowered. col. 4 lines 10-14. Bushue continues that, in operation, upon detecting an "undervoltage" situation, the DC signal should be employed in lieu of the AC signal for a predetermined time period of 20-100 milliseconds to allow the "undervoltage" situation to recover, and that this 20-100 millisecond DC signal could then be repeated as needed until the "undervoltage" situation has recovered. col. 4 lines 15-26.

c. Cohn

Cohn teaches an apparatus and method of supporting enhanced ring scheduling for telephones on lines with limited power while seeking to preserve Caller-ID information and preset ringing cadence. col 1 lines 61-64.

The Examiner asserts that "Cohn teaches that the ring signals output to multiple lines may be staggered to ensure that the maximum instantaneous load threshold of the system is not

exceeded." col. 2 line 10 – col. 3 line 12). Applicants respectfully submit that Cohen teaches that the ring signals may be queued to fit into a preset inventive ring cadence in order to reduce power consumption.

In more detail, Cohn discloses modifying the standard North American ring cadence 10 shown in Figure 1 (6 second ring cycle comprising 2 second ring period followed by a 4 second silence period) to the inventive PABX cadence 22 shown in Figure 2 (4 second ring cycle comprising a 1 second ring period followed by a 3 second silence period). col. 2 lines 10-31; col. 4 lines 4 – 40. Cohen also explains that the illustrated PABX cadence 22 is merely exemplary of suitable modified preset ring cadences that would allow more devices to ring within a given period of time, e.g. supporting ringing 16 lines during a 4 second ring cycle. col. 2 lines 25-31; col. 4 lines 38-40).

Cohn further discloses that when a ringing signal is directed to a telephone, the line manager determines if there is suitable voltage to ring the telephone. If there is suitable voltage, then the line state transitions to "Ring 1" if the line supports Caller-ID and transitions to "Active" if the line does not support Caller-ID. If there is not suitable voltage, then line state transitions to "Queue Wait". After the "Ring 1" state, the line transitions to the "Long Silent Interval", where Caller-ID data is displayed. After the "Long Silent Interval" state, the line transitions to "Active". col. 2 lines 41-53. Also, a reserve or "Res" state is used when the line manager wants to reserve a time slot for the first ring ("Ring 1") for Caller-ID support, since the ring scheduling apparatus is not in control of the ring timing. However, if such reserved time slots are unavailable, then the "Queue" state is used (unless Caller-ID is supported, in which case "Ring 1" is scheduled when possible). col. 7 lines 34-47.

Cohn's use of a modified ring cadence having a shorter ring period provides for the intended ability to ring additional telephones within a given period of time while reducing power consumption vis-à-vis the prior art. Importantly, Cohn does not shift in time or stagger the ring cadence, rather, it transitions the line state to Queue or Reserve while maintaining the ring cadence constant.

C. Rejection of Independent Claims 1, 14, 26, 27, 28 and 29

The Examiner states that independent claims 1, 14, 26, 27, 28 and 29 are unpatentable under 35 U.S.C. § 103 as being obvious over Henderson in view of Bushue and further in view

of Cohn. However, none of these references alone or in combination disclose or suggest a processor that measures the load, determines if the measured load is above a threshold level, and then shifts or staggers voltages based on such determination.

The last Examiner's Response to Arguments, states "Cohn discloses that the ring staggering (delaying the ring signals) may occur in the event the ring scheduler determines whether there are sufficient resources available (Cohn: col. 7 lines 34-48), However, Cohn does not specify the details of the detection. Bushue discloses a specific and accurate form of resource detection by means of a total load threshold."

As explained above, Cohn discloses ring queuing or reserving of a preset ring cadence, not Applicant's claimed ring shifting or staggering. Thus, since neither Cohn nor the prior art disclose or suggest ring staggering, the rejection must fail.

The Examiner's last Response to Arguments continues that one skilled in the at would be motivated to combine Bushue with Cohn because: (1) maintaining the Bushue waveforms in Cohn's AC format will lessen the chance of transient spikes in switching from an AC signal level to a DC signal level, and (2) the telephone may comprise a digital stage that may be expecting a specific range of AC signal.

Regarding the first motivation to combine, Applicants respectfully submit that the reduction of transient spikes addresses a completely different problem than providing power in undervoltage situations. One skilled in the art looking to solve an undervoltage problem would not turn toward the teachings of irrelevant transient spike reduction.

Regarding the second motivation to combine, Applicants respectfully submit that the Examiner has added hypothetical new matter – matter that forms no part of Applicants' inventions as claimed and disclosed in the specification – and then generally states that if this new matter was a factor in solving the undervoltage problem, then it would provide motivation to combine. One skilled in the art looking to solve an undervoltage problem would not turn toward the teachings of hypothetical AC signal expectation.

Applicants respectfully submit that the only reason that "transient spikes" or "AC signal expectation" are mentioned is to provide some bridge or applicability to AC/DC transformation in order to support the Examiner's prima facie combining of Bushue and Cohn. Applicants respectfully submit that one skilled in the art at the time of Applicants' invention, when seeking to solve the undervoltage problem, would not have turned to "transient spikes" or "AC signal

expectation" to solve the undervoltage problem. Rather such "transient spikes" and "AC signal expectation" are simply irrelevant to solving the undervoltage problem.

As explained by the Federal Circuit:

> Rejecting patents solely by finding prior art corollaries for the claimed elements would permit an examiner to use the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention. Such an approach would be an illogical and inappropriate process by which to determine patentability.

In re Rouffet, 47 U.S.P.Q.2d 1453, 1457 (Fed. Cir. 1998).

Even if Cohn could be combined with Bushue as suggested by the Examiner, such combination properly taken as a whole would render a processor that queues or reserves AC/DC transformed signals within a preset PABX cadence, not Applicants claimed processor that measures the load, determines if the measured load is above a threshold level, and then shifts or staggers voltages based on such determination

In view of the above, it is respectfully submitted that independent claims 1, 14, 26, 27, 28 and 29 are patentable.

D. Rejection of Dependent Claims 2-13 and 15-25

Dependent claims 2-13, and 15-25 are patentable based upon their dependency from claims 1 and 14 as well as on their own merit. For example, dependent claims 2 and 15 further recite staggering the ring voltages, and dependent claims 4 and 17 further recite that the ring voltages are also simultaneously generated. For another example, dependent claims 13 and 25, further recite that the first ring voltages have a duration of two seconds followed by a four second pause; of which Cohn's disclosed PABX cadence (4 second ring cycle comprising a 1 second ring period followed by a 3 second silence period) teaches away.

Reversal of the Section 103 rejection is therefore respectfully requested.

E. Conclusion

For the foregoing reasons, Applicants respectfully submit that the rejections set forth in the final Office Action are inapplicable to the pending claims. The honorable Board is therefore respectfully requested to reverse the final rejection of the Examiner and to remand the application to the Examiner with instructions to allows the pending claims. Please grant any extensions of time required to enter this paper. Please charge any appropriate fees due in connection with this paper or credit any overpayments to Deposit Account No. 19-2179.

Respectfully submitted,

Dated: 10/18/05

By: _____

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Registration No. 44,961
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Siemens Corporation
Intellectual Property Department
170 Wood Avenue South
Iselin, New Jersey 08830

Claims Appendix

1. (previously presented) A network interface device, comprising:

a first interface operable to receive at least two incoming calls over a subscriber line;

a second interface operable to facilitate communication between the first interface and a first telephone line and between the first interface and a second telephone line, the second interface also operable to generate one or more first ring voltages on the first telephone line and one or more second ring voltages on the second telephone line; and

a processor coupled to the first interface and the second interface, the processor operable to instruct the second interface to generate the first and second ring voltages in response to receiving the incoming calls, the processor also operable to:

measure a total instantaneous load placed on the second interface;

compare the total instantaneous load to a determined threshold level;

and if the total instantaneous load exceeds the threshold level, then maintain the total instantaneous load below the determined threshold level by shifting in time the respective peak voltages of the first and second ring voltages.

2. (original) The network interface device of Claim 1, wherein the processor is operable to allocate the first and second ring voltages by staggering the first and second ring voltages such that the one or more first ring voltages on the first telephone line are generated at different times than the one or more second ring voltages on the second telephone line.

3. (original) The network interface device of Claim 2, wherein the processor staggers the first and second ring voltages after determining that the total instantaneous load placed on the first and second telephone lines exceeds the determined threshold level.

4. (original) The network interface device of Claim 1, wherein the processor is operable to allocate the first and second ring voltages by instructing the second interface to generate the first and second ring voltages simultaneously.

5. (original) The network interface device of Claim 4, wherein the processor instructs the second interface to generate the first and second ring voltages simultaneously after

determining that the total instantaneous load placed on the first and second telephone lines does not exceed the determined threshold level.

6. (original) The network interface device of Claim 1, wherein the second interface is further operable to measure a load placed on each of the telephone lines.

7. (original) The network interface device of Claim 1, wherein the processor is further operable to:

extract class of service information from the incoming calls; and

communicate the class of service information for each incoming call to the telephone line associated with the incoming call during the generation of the ring voltage on the telephone line associated with the incoming call.

8. (original) The network interface device of Claim 1, wherein:

the second interface is further operable to decode dual-tone multi-frequency touch tones received over one of the telephone lines and to communicate the decoded tones to the processor; and

the processor is further operable to:

map all telephone numbers associated with the telephone lines to a selected telephone line in response to a first function identified by the decoded tones;

map a selected telephone number to a selected telephone line in response to a second function identified by the decoded tones; and

redirect an incoming call from one of the telephone lines to another of the telephone lines in response to a third function identified by the decoded tones.

9. (original) The network interface device of Claim 1, further comprising a local power supply operable to supply at least some power to at least one of the processor, the first interface, and the second interface;

wherein the network interface device draws power from the subscriber line after the local power supply fails; and

wherein the second interface remains operable to communicate over at least one of the telephone lines after the local power supply fails.

10. (original) The network interface device of Claim 1, wherein the processor is further operable to instruct a switch to alternately couple one of the telephone lines to either the second interface or a splitter, the splitter operable to receive ringing power for the telephone line and line power for the network interface device, the splitter operable to communicate the line power to the network interface device and the ringing power to the telephone line.

11. (original) The network interface device of Claim 1, further comprising a third interface coupled to the processor and operable to communicate with at least one digital device.

12. (original) The network interface device of Claim 11, wherein:

the first interface comprises at least one of a Digital Subscriber Line (DSL) interface, a cable interface, and a wireless interface;

the second interface comprises:

at least one subscriber line interface circuit coupled to at least one of the telephone lines and operable to generate the ring voltage on the at least one telephone line;

at least one codec coupled to at least one subscriber line interface circuit and operable to convert analog information into digital information and to convert digital information into analog information; and

a digital signal processor coupled to the at least one codec and to the processor, the digital signal processor operable to sample digital information from the at least one codec and to communicate the samples to the processor, the digital signal processor also operable to receive digital information from the processor and communicate the digital information to the at least one codec; and

the third interface comprises at least one of a Home Phoneline Network Alliance interface, an Ethernet interface, a local area network interface, and optical interface, and a wireless interface.

13. (original) The network interface device of Claim 1, wherein each of the one or more first ring voltages have a duration of two seconds followed by a four second pause.

14. (previously presented) A method for providing a service to a subscriber, comprising:

receiving at least two incoming calls over a subscriber line;

identifying a first telephone line and a second telephone line associated with the incoming calls;

measuring a total instantaneous load placed on a network interface device coupled to the first and the second telephone lines;

comparing the total instantaneous load to a determined threshold level; and

if the total instantaneous load exceeds the threshold level, maintaining the total instantaneous load below the determined threshold level by shifting in time the respective peak voltages of one or more first ring voltages and one or more second ring voltages.

15. (original) The method of Claim 14, wherein allocating the first and second ring voltages comprises staggering the first and second ring voltages such that the one or more first ring voltages on the first telephone line are generated at different times than the one or more second ring voltages on the second telephone line.

16. (original) The method of Claim 15, wherein staggering the first and second ring voltages comprises staggering the first and second ring voltages after determining that the total instantaneous load placed on the first and second telephone lines exceeds the determined threshold level.

17. (original) The method of Claim 14, wherein the first and second ring voltages comprises initiating simultaneous generation of the first and second ring voltages.

18. (original) The method of Claim 17, wherein initiating simultaneous generation of the first and second ring voltages comprises initiating simultaneous generation of the first and

second ring voltages after determining that the total instantaneous load placed on the first and second telephone lines does not exceed the determined threshold level.

19. (original) The method of Claim 14, further comprising measuring a load placed on each of the telephone lines.

20. (original) The method of Claim 14, further comprising:

extracting class of service information from the incoming calls; and

communicating the class of service information for each incoming call to the telephone line associated with the incoming call during the generation of the ring voltage on the telephone line associated with the incoming call.

21. (original) The method of Claim 14, further comprising:

decoding dual-tone multi-frequency touch tones received over one of the telephone lines;

mapping all telephone numbers associated with the telephone lines to a selected telephone line in response to a first function identified by the decoded tones;

mapping a selected telephone number to a selected telephone line in response to a second function identified by the decoded tones; and

redirecting an incoming call from one of the telephone lines to another of the telephone lines in response to a third function identified by the decoded tones.

22. (original) The method of Claim 14, further comprising:

drawing at least some power for the network interface device from a local power supply;

drawing power from the subscriber line after the local power supply fails; and

allowing communication over at least one of the telephone lines after the local power supply fails.

23. (original) The method of Claim 14, further comprising instructing a switch to alternately couple one of the telephone lines to either the network interface device or a splitter, the splitter operable to receive ringing power for the telephone line and line power for the

network interface device, the splitter operable to communicate the line power to the network interface device and the ringing power to the telephone line.

24. (original) The method of Claim 14, further comprising communicating with at least one digital device.

25. (original) The method of Claim 14, wherein each of the one or more first ring voltages have a duration of two seconds followed by a four second pause.

26. (previously presented) Software for providing a service to a subscriber, the software embodied in at least one computer-readable medium and when executed by one or more processors operable to:

receive at least two incoming calls over a subscribed line;

identify a first telephone line and a second telephone line associated with the incoming calls;

measure a total instantaneous load placed on the interface to the first and second telephone lines;

compare the total instantaneous load to a determined threshold level; and

if the total instantaneous load exceeds the threshold level, instruct the interface to generate one or more first ring voltages on the first telephone line and one or more second ring voltages on the second telephone line, the respective peak voltages of the first and second ring voltages shifted in time so that the total instantaneous load does not exceed the determined threshold level.

27. (previously presented) A network interface device, comprising:

means for receiving at least two incoming calls over a subscriber line;

means for generating one or more first ring voltages on a first telephone line and one or more second ring voltages on a second telephone line;

means for measuring a total instantaneous load placed on a network interface device coupled to the first and the second telephone lines;

means for comparing the total instantaneous load to a determined threshold level; and

means for maintaining the total instantaneous load below the determined threshold level, by shifting in time the respective peak voltages of one or more first ring voltages and one or more second ring voltages if the total instantaneous load exceeds the threshold level.

28. (original) A network interface device, comprising:

a first interface operable to receive at least two incoming calls over a subscriber line;

a second interface operable to facilitate communication between the first interface and a first telephone line and between the first interface and a second telephone line, the second interface also operable to generate one or more first ring voltages on the first telephone line and one or more second ring voltages on the second telephone line; and

a processor coupled to the first interface and the second interface, the processor operable to:

measure a total instantaneous load placed on the second interface;

compare the total instantaneous load to a determined threshold level; and

if the total instantaneous load exceeds the threshold level, instruct the second interface to generate the first and second ring voltages in response to receiving the incoming calls, the generation of the ring voltages staggered such that the one or more first ring voltages on the first telephone line are generated at different times than the one or more second ring voltages on the second telephone line.

29. (previously presented) A network interface device, comprising:

a first interface operable to receive at least two incoming calls over a subscriber line;

a second interface operable to facilitate communication between the first interface and a first telephone line and between the first interface and a second telephone line, the second interface also operable to generate one or more first ring voltages on the first telephone line and one or more second ring voltages on the second telephone line; and

a processor coupled to the first interface and the second interface, the processor operable to:

determine whether a total load placed on the first and second telephone lines exceeds a threshold load;

transmit a first instruction instructing the second interface to allow a simultaneous generation of the first and second ring voltages on the telephone when the total load placed on the telephone lines does not exceed the threshold load;

transmit a second instruction instructing the second interface to stagger a generation of the first and second ring voltages when the total load placed on the telephone lines exceed the threshold load; and

switch between the transmissions of the first and second instructions based on the determination.

Evidence Appendix

None